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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/915,056	07/25/2001	Masayoshi Kobayashi	P/2291-102	6082

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EXAMINER

PHILLIPS, HASSAN A

ART UNIT PAPER NUMBER

2151

DATE MAILED: 03/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/915,056	Applicant(s) KOBAYASHI, MASAYOSHI	
	Examiner Hassan Phillips	Art Unit 2151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,3,4,6,10,28-31,35-42,45,46,48,49 and 62-64 is/are allowed.
- 6) ☒ Claim(s) 7,11,51,53,55,57,59 and 61 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/29/05, 10/03/05</u> | 6) <input type="checkbox"/> Other: _____ |

Continuation of Disposition of Claims: Claims pending in the application are 1, 3, 4, 6, 7, 10, 11, 28-31, 35-42, 45, 46, 48, 49, 51, 53, 55, 57, 59 and 61-64.

DETAILED ACTION

1. This action is in response to communications filed December 29, 2005.

Information Disclosure Statement

2. The Examiner has received the information disclosure statement filed December 29, 2005. The foreign patent documents: JP-9-247153, JP-2000-201182, and JP-9-275403, have not been considered because the Applicant has not provided an English translation of the documents.

Claim Objections

3. After consideration of the amendments made to claims 50-61, Examiner has withdrawn the objections to claims 50-61 for depending on cancelled claims.

Response to Arguments

4. Applicant's arguments filed December 29, 2005 have been fully considered but they are not persuasive. Applicant argued that: Harada fails to disclose the path control protocol identifies the candidate path as having a maximum remaining bandwidth of the plurality of paths and identifies the link of the candidate path that has a minimum remaining bandwidth. Examiner respectfully disagrees with Applicants assertion.

5. Regarding Applicants remarks, Applicant acknowledges that Harada selects one of the pluralities of paths using the following procedure. First, bandwidths of the links are summed for each path and ***the path having the largest total bandwidth is selected***. If two or more paths have the same total bandwidth, then the average bandwidth is obtained by dividing the total bandwidth by the number of links for each candidate path, ***a link having the most deviated bandwidth from the average bandwidth for each candidate path and deviation ratio is determined*** and then, the path having the smallest deviation ratio from the candidate path is selected, (Harada, col. 5, line 50 through col. 6, line 21). In these teachings of Harada it is clear Harada discloses identifying the candidate path as having a maximum remaining bandwidth of the plurality of paths. Furthermore, it is also implicit in the teachings of Harada that a link of the candidate path is identified that has a minimum remaining bandwidth since such a link would be a link that has the most deviated bandwidth from the average bandwidth.

6. Furthermore, the Examiner has interpreted the claim language as broadly as possible. It is also the Examiner's position that Applicant has not yet submitted claims drawn to limitations, which define the operation and apparatus of Applicant's disclosed invention in a manner that distinguishes over the prior art. Failure for Applicant to significantly narrow definition/scope of the claims implies the Applicant intends broad interpretation be given to the claims. The Examiner has interpreted the claims with scope parallel to the Applicant in the response and reiterated the need for Applicant to

define the claimed invention more clearly and distinctly. Accordingly the references supplied by the examiner in the previous office action covers the claimed limitations. The rejections are thus sustained. Applicant is requested to review the prior art of record for further consideration.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 7, 11, are rejected under 35 U.S.C. 103(a) as being unpatentable over the Applicants Admitted Prior Art (AAPA) in view of Harada et al. (hereinafter Harada) U.S. Patent 5,956,339, and further in view of Appanna et al. (hereinafter Appanna), U.S. Patent 6,678,244.

9. In considering claims 7 and 11, the AAPA teaches it is well known in the art for network systems to include at least one cache server comprising: at least one of an automatic cache updating section, a link prefetching control section, and a cache server cooperating section, which carries out respective ones of the automatic cache updating operation, the link prefetching operation, and the cache server cooperating operation, (page 4, lines 12-19).

Although the AAPA shows substantial features of the claimed invention, it fails to show the cache server comprising: a quality-of-service (QoS) path information obtaining section, a path calculating section, and identifying a candidate path as having a maximum remaining bandwidth of a plurality of paths and identifying a link of the candidate path that has a minimum remaining bandwidth.

Nevertheless, in a similar field of endeavor, Harada teaches an apparatus in a packet-switched communications network which comprises: a plurality of path settable routers (SS-1, SS-2, or SS-3) operating a path control protocol to exchange network path information and path load information, relay servers (2, 3, 5, or 6), a QoS path information obtaining section (11) for obtaining QoS path information including network path information and path load information; a path calculating section for obtaining a path, (col. 3, lines 40-54); the path control protocol identifying a candidate path as having a maximum remaining bandwidth of a plurality of paths and identifying a link of the candidate path that has a minimum remaining bandwidth, (col. 5, line 50 through col. 6, line 21) .

Thus, given the teachings of Harada, it would have been obvious to one of ordinary skill in the art to modify the teachings of the AAPA in order to show a relay control section for selecting at least one relay server suitable for carrying out at least one of an automatic cache updating operation, a link prefetching operation, and a cache server cooperating operation, based on the QoS path information obtained by the QoS path information obtaining section, and for instructing the selected at least one relay server about data to be relayed, wherein the at least one relay server relays the data

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according to an instruction from a relay control section, and identifying a candidate path as having a maximum remaining bandwidth of a plurality of paths and identifying a link of the candidate path that has a minimum remaining bandwidth. This would have allowed for stable packet transmission and effective cache updating, link prefetching, or server cooperating operations by implementing various components in the network system to help select the most efficient routes in the network, (Harada, col. 3, lines 23-30).

Although the combined teachings of AAPA and Harada show substantial features of the claimed invention, they fail to expressly show the relay server near to the congestion portion storing data, and when the congestion has been relieved, transferring the data downstream.

Nevertheless, Appanna teaches a congestion management system which discloses: a node for storing data near a congestion portion, and when the congestion has been relieved, transferring the data downstream, (col. 2, lines 40-52).

Thus, given the teachings of Appanna, it would have been obvious to one of ordinary skill in the art to modify the teachings of the AAPA and Harada to show the relay server near to the congestion portion storing data, and when the congestion has been relieved, transferring the data downstream. This would have advantageously prevented a buildup of data in the communication path, and would have provided a means for efficiently transmitting data once the path was clear, Appanna, col. 2, lines 30-36.

10. Claims 51, 53, 55, 57, 59, 61, are rejected under 35 U.S.C. 103(a) as being unpatentable over the AAPA in view of Fukushima et al. (hereinafter Fukushima) U.S. Patent 6,292,489, in view of Harada and further in view of Appanna.

11. In considering claims 51, 53, 55, 57, 59, and 61, the AAPA teaches it is well known in the art for network systems to include at least one cache server comprising: at least one of an automatic cache updating section, a link prefetching control section, and a cache server cooperating section, which carries out respective ones of the automatic cache updating operation, the link prefetching operation, and the cache server cooperating operation, (see page 4, lines 12-19).

Although the AAPA shows substantial features of the claimed invention, it fails to show: a priority controllable router.

Nevertheless, in a similar field of endeavor, Fukushima teaches a network system comprising: a priority controllable router (1), capable of controlling a priority of transmitting a packet to a link, based on priority information added to the packet, (see col. 5, lines 24-39).

Thus, given the teachings of Fukushima, it would have been obvious to one of ordinary skill in the art to modify the teachings of the AAPA in order to show at least one priority controllable router capable of controlling a priority of transmitting a packet to a link, based on priority information added to the packet, and allowing priority given to a packet used for communications generated by at least one of the automatic cache updating operation, the link prefetching operation, and the cache server cooperating

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operation to be lower than a priority given to a packet to be used for communications generated by a cache operation. This would have provided a better QoS for the network system, (Fukushima, col. 2, and lines 7-21).

Although the teachings of the AAPA and Fukushima further show substantial features of the claimed invention, they fail to show: a quality-of-service (QoS) path information obtaining section, and a path calculating section.

Nevertheless, in a similar field of endeavor, Harada teaches an apparatus in a packet-switched communications network which comprises: a plurality of path settable routers (SS-1, SS-2, or SS-3) operating a path control protocol to exchange network path information and path load information, relay servers (2, 3, 5, or 6), a QoS path information obtaining section (11) for obtaining QoS path information including network path information and path load information; and, a path calculating section for obtaining a path, (see col. 3, lines 40-54).

Thus, given the teachings of Harada, it would have been obvious to one of ordinary skill in the art to modify the teachings of the AAPA and Fukushima in order to show a relay control section for selecting at least one relay server suitable for carrying out at least one of an automatic cache updating operation, a link prefetching operation, and a cache server cooperating operation, based on the QoS path information obtained by the QoS path information obtaining section, and for instructing the selected at least one relay server about data to be relayed, wherein the at least one relay server relays the data according to an instruction from the relay control section. This would have allowed for stable packet transmission and effective cache updating, link prefetching, or

server cooperating operations by choosing and selecting the most efficient routes in the network, (Harada, col. 3, lines 23-30).

Although the modified teachings of AAPA show substantial features of the claimed invention, they further fail to expressly show the relay server near to the congestion portion storing data, and when the congestion has been relieved, transferring the data downstream.

Nevertheless, Appanna teaches a congestion management system which discloses: a node for storing data near a congestion portion, and when the congestion has been relieved, transferring the data downstream, (col. 2, lines 40-52).

Thus, given the teachings of Appanna, it would have been obvious to one of ordinary skill in the art to further modify the teachings of the AAPA to show the relay server near to the congestion portion storing data, and when the congestion has been relieved, transferring the data downstream. This would have advantageously prevented a buildup of data in the communication path, and would have provided a means for efficiently transmitting data once the path was clear, Appanna, col. 2, lines 30-36.

Allowable Subject Matter

12. Claims 1, 3, 4, 6, 10, 28-31, 35-42, 45, 46, 48, 49, 62-64 remain allowed. The references in the Applicants IDS and the prior art, cited by the Examiner, failed to explicitly teach all the limitations recited in the claims. Specifically, the prior art of record failed to explicitly teach an apparatus or a method that identifies a maximum remaining bandwidth path, identifies a link on the maximum remaining bandwidth path

having a minimum remaining bandwidth, and determines whether the minimum remaining bandwidth is not smaller than a predetermined value. Furthermore, modifying the prior art to teach all of the limitations recited in the claims would not have been obvious to a person of ordinary skill in the art at the time of the present invention.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hassan Phillips whose telephone number is (571) 272-3940. The examiner can normally be reached on M-F 8:00am-5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on (571) 272-3939. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HP/
2/23/06


ZARNI MAUNG
SUPERVISORY PATENT EXAMINER